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its causality become visible as a Unit in all future worlds? Unquestionably. But in that case it has made itself visible as the factual principle of the production of a new world, and, accordingly, of infinite new future worlds, in which character it is not at all visible here.

ROWLAND G. HAZARD'S WORKS.¹

In previous numbers of this journal we have quoted largely from the latest work of Dr. Hazard. To the Anglo-Saxon mind the question of self-determination, so important to the philosopher, takes the form of the possibility of the freedom of the will. That the ordinary reflection—the second stage of knowing, as we have called it in another place²—will be sure to deny the possibility of freedom in a given instance, we may be certain. This is certain, because it does not acknowledge the existence of freedom as a possibility in any shape, and, of course, it will not recognize any special example of the same. Give it the idea of Cause, and, though it will admit that one object is modified through another, and that the modified object is effect, it will refuse to think the cause as a first cause of motion, but will hold: "A given cause is made active by some other cause." It thus avoids the issue of the problem, and declines to

¹ 1. "Essay on Language, and other Papers." By Rowland G. Hazard. Edited by E. P. Peabody. Boston: Phillips, Sampson & Co. 1857.

2. "Our Resources." New York: Charles Scribner & Co. 1868.

3. "Finance and Hours of Labor." New York: Charles Scribner & Co. 1868.

4. "Freedom of Mind in Willing; or, Every Being that wills, a Creative First Cause." New York: D. Appleton & Co. 1864.

5. "Two Letters, on Causation, and Freedom in Willing, addressed to John Stuart Mill. With an Appendix on the Existence of Matter, and our Notions of Infinite Space." By Rowland G. Hazard. Boston: Lee & Shepard. 1869.

6. "Zwei Briefe ueber Verursachung und Freiheit im Willen." Gerichtet an John Stuart Mill. Mit einem Anhange ueber die Existence des Stoffes und unsere Begriffe des Unendlichen Raumes. Von Rowland G. Hazard. New York: B. Westermann & Co. Leipzig: Bernhard Hermann.

7. "Animals not Automata." By Rowland G. Hazard, Esq. (Reprint from "The Popular Science Monthly," vol. vi, p. 405.)

8. "Man a Creative First Cause." Two Discourses delivered at Concord, Mass., July, 1882. By Rowland G. Hazard, LL. D. Boston: Houghton, Mifflin & Co. 1883.

² See October ('83) number "Jour. Spec. Phil." "Philosophy in Outline," Chapter ix, § 82.

acknowledge the necessity of a true cause as the origin of the influence which is separated from the cause by the cause itself, and produces successive modification on all the links until it reaches the object in question. The thought of self-activity as the necessary presupposition of any motion or activity is called "inconceivable" by a thinker of this grade.

Dr. Hazard is gifted with such clear insight that he has never regarded the question of free-will as insoluble by reason of the "inconceivability" of self-activity. His glance has taken in at once the fact of causal action and the necessary presupposition of self-activity as the essence of causality. We can predict that it will almost surprise him that many sensible, capable, "common-sense" persons will fail to be convinced by his argument because they do not consciously admit self-activity as a possible thought.¹ A candid writer of this class recently reviews² the last work above cited, and dissents from Dr. Hazard's conclusions quite confidently. He even goes so far as to grant self-activity, but it does not seem to occur to him that self-activity means the origination of movement; to him it is entirely reasonable to admit self-activity and assert that it is the "product of innumerable forces," etc. He says, for example:

¹ Dr. Hazard's idea is that activity is always stimulated by a want, and he says ("Letters to Mill," p. 126): "I have already remarked that the ability of the mind to start from a fixed condition of universal passivity into action is, at least, doubtful, and that such condition being wholly foreign to our experience, the problem is not practically important."

His idea, elsewhere stated, is that if the mind should ever itself become wholly passive and oblivious, it could be still, through its sensations (which are not dependent on its *own*, but may be excited by extrinsic agencies), aroused, and wants be induced in it through the same agencies; and that, in fact, in such case, such external agency would be required to save him from annihilation. In "Freedom of Mind in Willing," chap. xiii., p. 137, he says: "If we ever become quiescent, we cease to be cause, and this want must then become manifest by some change, effected by some active cause without us, the effect of which, from the constitution of our being, we may recognize without effort of our own; and the fact is, we can not always prevent such cognition. If our mental activity ever entirely ceases, it must then be as if we had no mind, and we must be re-minded before we can again become an active cause; and this, as before suggested, may be done by want in us, produced by causes to the action of which our own efforts are not essential."

In another passage (p. 171) he treats of the bountiful provision which has been made for the production and recurrence of these wants—spiritual and physical—which are thus essential to intelligent activity. He holds that the question of our ability to change, of ourselves, from a purely passive to an active condition, is never put to the test of actual experience, and that it does not concern the question of man's freedom—i. e., the question of his *being* free—but only the question of *how he became free*, as he is with his actual environment. The true question is, Taking man as he is, does he will freely? (See also "Letters to Mill," pp. 101–153.)

² In "The Index" for November 8, 1883, p. 221.

"The fact that a creature is self-active, that the impelling forces, called the will, are a part of its nature, and therefore *internal*, does not carry with it the implication that the creature is detached from that cosmic order in which all things are bound together by the law of causation.¹ And, unless it be so detached, how can the words 'independent' and 'free' have, in this case, any logical or philosophical meaning? It seems to us that the libertarian, to prove free agency, must show that a creature has the power of deciding and doing differently from what it does decide to do; not simply that the proximate cause of its movements is internal, not external, but that this cause is not a related, dependent link in the chain of causation; not simply that the creature can exercise choice and will and act in accordance therewith, but that its choice and will are not dependent upon and determined by the constitution of its being and the nature of its environment; that, in short, being independent and free, it cannot only do as it chooses, but that it can choose to do one thing as easily as another."

Self-determination, according to the fatalist, is not freedom. For it moves according to its nature, and is compelled by itself thus to move. True to his hampered mode of thinking, which always puts its object into the form of conditioned and conditioning, it conceives the self-active in the form of a conditioned-by-itself, but regards that as a form of fate. And if there is choice present, then it "must choose as it did choose, because it is clear that it could not both choose and not choose at the same time!" Thus the reviewer suggests:

"If an individual, under any given circumstances, could have done the opposite of what it did do, it follows that from the same causes opposite effects could have resulted, which is an absurdity, or that events may occur independently of causation, which is no less an absurdity.²

"The advocates of necessity," says Mr. Hazard, often ask 'if a man could will contrary to what he does will. I would say that he could if he so decided; but it would be a contradictory and absurd idea of freedom which, for its realization, would require that one might try to do what he had determined not to do.'

"He 'could will the contrary of what he does will, . . . if he so decided,' undoubtedly. But this is saying only that he could will contrary to what he does will, if he so willed. The question is, *Could he so decide?* The old advocates of free-will would have answered, unhesitatingly, Yes. But Mr. Hazard sees that this answer involves a conception that is 'contradictory and absurd,' and endeavors to avoid it.

¹ As to "that cosmic order in which all things are bound together by the law of causation," Dr. Hazard holds that this cosmic order is but the composite result of every intelligent will, and that every conative being has the power by his own acts of will to vary that order; and that, in fact, every act of will is intended to change that order, and may do it—making the future different from what it would have been but for such act.

² As to our power to will or do the opposite, see "Letters to Mill," p. 181.

"The question he raises is not whether 'one might try to do what he had determined not to try to do,' but whether he could decide contrary to what he does decide, contrary to what his character, views, and circumstances compel him to decide. If he could, according to our view, he is a free agent. If he could not, he is not a free agent. It is clear from Mr. Hazard's reply that he believes he could not, for he sees that the opposite of this belief leads to contradiction and absurdity."¹

¹ Dr. Hazard's definition of freedom as applicable to willing must be borne in mind. He says ("Freedom of Mind in Willing," p. 19): "The question may arise whether that which controls itself is free, or whether the fact of its being controlled, even though by itself, renders it not free. This question, in our present inquiry, concerns the action of the mind in willing; but we may say, generally, that everything, in moving or in acting, in motion or in action, must be directed and controlled in its motion or in its action by itself, or by something other than itself; and that, of these two conditions of everything moving or acting, or in motion or in action, the term freedom applies to the former rather than to the latter; and, if the term freedom does not apply to that condition, it can have no application to the acting, or the action, of anything whatever. And hence self-control is but another expression for the freedom of that which acts, or of the active agent; and this is in conformity to the customary use and the popular idea of the term freedom."

He holds that every being with feeling, knowledge, and volition is in its constitution self-active. "An act of will, a volition, is but an effort of the being that wills. Freedom in willing or effort is self-control of the effort by the being that wills, as contradistinguished from the idea of an act of will contributed by some extrinsic power. Every act of will, every effort of every such being, is incited by its own want (a feeling or emotion), and is directed to the gratification of this want by means of its own knowledge, including its preconceptions of the future effect of its effort. The object of an effort is always to make the future different from what it would otherwise be. This, as the being can not change the past, is the only conceivable motive, and the being thus acts, and acts as it does, not from any propulsion in the past, but from its own present feeling of a want to be gratified, which is its own knowledge of a reason for acting. It directs this effort by means of its own perceptions—more or less reliable—of the future effect of its effort ("Freedom of Mind in Willing," p. 70).

"As a conception, poetic or logical, of the effects of any contemplated efforts upon the future, is thus essential to the effort, a being with only sensation and a knowledge of the past and present would not will. It is only by the God-like power of making the future present that intelligence, infinite or finite, in the exercise of its will, becomes creative. By means of this power of anticipating its effects, the mind, in willing, is influenced by the anticipated creations of its own action, while those creations are still in the future, making a very broad distinction between intelligent and any conceivable unintelligent cause.

"It is this fact, that intelligent cause is influenced by its preconceptions of its own effects, that fits it for First Cause; for that which is thus, as it were, drawn forward by the future, needs no propulsion from the past; that which is moved by inducements before it does not need a motive influence behind it; that which acts from its own internal perception of the effects of its own action upon its own internal, existing want, does not require to be first acted upon by extraneous external forces."

This reduces all motives to one; with the further result reached (in "Letters to Mill,"

The reviewer elaborates his idea of the fate involved in organism in the following language :

"A statement of two or three of Mr. Hazard's positions will give some idea of his views and reasonings. He claims that every being, having feeling, knowledge, and power, is 'a creative first cause, an independent power in the universe, commensurate with its knowledge, freely putting forth its efforts to change existing conditions.' Every such being, however high or low in the scale of life, within the limits of its power and knowledge, is in its action 'as free as if it were omniscient and omnipresent.' This is as true of the oyster as of man. To those who would limit free agency to man, this statement will seem strange; but it is consistent with the general theory of free agency, so far, at least, as free agency is consistent with itself. If the power of choosing and willing implies independence and freedom, then there is no escape from the conclusion that the worm, within the limits of its knowledge and power, is independent and free. With this view of the subject, the question of the evolutionist, Where, in the development of life and intelligence, does free agency begin? is deprived of its force and rendered irrelevant by a surrender to the necessitarian of what hitherto has been defended, and is now generally regarded as a stronghold of the doctrine of man's free agency, involving a denial, too, of what is commonly believed to be an essential distinction between man and all other living creatures on the globe.

"But when this concession is made, as it is by Mr. Hazard, another question immediately arises: If, in the evolution of life, the condition of every period has grown out of pre-existent conditions, how is it possible that in this invariable continuity of phenomena creatures appeared endowed with powers enabling them to sever connection with the converging forces and influences that produced them, and to escape reciprocal relationships with the environment in which they were formed, so that

p. 25), that effort is always to move our muscles or increase our knowledge. In all this, intelligent being will, of course, conform its action to the existing conditions, the succession of which he seeks by his effort to influence. His action will, under one set of circumstances, differ from what it would be under another; but, in view of these conditions, be they what they may, he must still judge and decide what his action shall be to make the future what he wants it to be. This is self-control of his act of will, and hence freedom in willing. The change of the condition makes no difference to this freedom; he acts as freely on one set of conditions as on any other, and change in the conditions affects him only as it changes the knowledge by which he determines and directs his efforts. If the power to move the being to action inhered in the conditions or circumstances extrinsic to it, there could be no need of their being known to the being that acts. That such power does not inhere in the circumstances, but in the mind's own view—its knowledge, its belief in regard to them—is evident from the fact that, when by mistake the belief differs from the actual facts, the action is conformed to the belief and not to the fact. That his action is so conformed to his own knowledge indicates that it is so conformed by himself, and hence is his free act. (For this influence of circumstances, see "Freedom of Mind in Willing," p. 80; also p. 327 *et seq.*; and "Letters to Mill," §§ 8 and 9 of Letter I, and §§ 10, 16, 17, 18 of Letter II.)

they could be 'independent' and 'free'? Organisms appeared possessing sensation and the will and power to move themselves. But was not sensation a condition local and circumscribed in its character, determined in its nature, its tendencies, its requirements, its expressions, by influences so universal, so multitudinous, so complex, so subtle, and extending so far back in the abyss of time as to defy all finite powers of calculation? The oyster wills to move its shell; but is not its willing, in this case, dependent upon the possession of a shell, dependent upon an organized structure within the shell with relations between its parts, dependent upon an environment with relations between its parts, dependent, too, upon the connection between these inner and these outer relations, giving rise to certain sensations and wants and the power of effort? Since every creature is a product of innumerable forces that have established its medium and formed and fashioned it, giving it position and character, is connected by myriad threads with the entire universe, and its modes of life and thought, its appetites and passions, the air it breathes, the food it eats, the earth on which it lives, are determined by the constitution of nature, how can we say in truth that it is 'independent' and 'free'?"

And so when Dr. Hazard defines the holy man, "who has eradicated his conflicting wants, and annihilated the conditions requisite to his willing what is unholy," as being above sin and as incapable of willing what is impure and ignoble, the reviewer asks:

"What is this but a statement of the doctrine of necessity? The holy man must will what he believes right, because his character and disposition constrain him so to do."

If a self-made character, as in the case of holiness, is simply the fixed habit of willing only what is in harmony with free-will, it insures persistence in freedom. But the fatalist is convinced that this is an example of fate!

There are two kinds of necessity—the logical and the fatalistic. The necessity involved in a definition is a logical necessity: "A self-determined must be free." A fatalistic necessity is involved where something is made to be what it is by the action of something else: "This thing is determined by the totality of conditions existing in its environment." By the fallacy known as *quaternio terminorum*, or *ambiguous middle*, the following refutation of the possibility of freedom may be made: (1) A self-determined being must be free; (2) but, if it must be free, it is necessitated, and (3) therefore is not free. (The refutation of this may be easily accomplished by continuing the argument thus:) (4) But, since it is not free, it is evident that it was not necessitated to be free, and, therefore, (5) in spite of (2) and (3), it is free. The necessity in (1) is a logical one, and in (2) and (3) a fatalistic necessity. The reasoning assumes the identity of the two because of the use of an ambiguous word. So, in the case of a saint who has, by the energy of his will, formed the habit of

choosing the pure and noble, or what conduces to self-determination, the incapability of sinning is a logical one, logically resulting from freedom.

The most important characteristic of Dr. Hazard's writings is his clearness and simplicity. He expresses his insights in the language of a business man, avoiding almost entirely the conventional technique of the schools. The consequence of this is the popularity of his works among thoughtful persons who are not large readers in the province of metaphysical literature. Almost every notice that has appeared mentions the remarkable clearness and conciseness of the work on "Man a Creative First Cause."

The critic that objects to Dr. Hazard's solution of the problem of free-will must do so, as we have suggested, on the ground of the general impossibility of self-activity or self-movement. It seems strange that a thinker can admit derived movement or activity and yet deny self-movement and self-activity. He admits derivation, but denies the existence of a source of derivation. There is something which is moved, and a chain of moved bodies which receive and transmit motion, but no energy that originates motion. This is, in fact, the denial of causality. For the cause must be regarded as an energy that acts on something else as a modifying influence, and therefore must separate from itself, by its own activity, a portion of its influence or energy in the act of transmitting it to another.

If the causal action is regarded as a series of links in which each link receives causal energy and again transmits it, then the modification which we call *effect* is a modification received by the entire series from beyond the series, and the movement of the entire series is effect without a cause, unless the cause exists beyond the series.

Or, if the series is a circular one, as in the case of correlation of forces, then each link may be regarded as the source of the modification which it transmits through the series of links round finally to itself, and producing a modification in itself as effect. Hence, each link is a self-activity, the originator and receiver of the modification transmitted through the other link of the series.

It is clear that the denial of self-activity as the presupposition of causal action ends in setting up the theory of the indestructibility of force or motion, as well as the theory of the correlation of forces, or of particular movements. But the logical conclusion should be that each link in the circle of effects is an originating cause of its own effect—each is *causa sui*.

This implication of self-activity or the origination of motion in the idea of cause, and, consequently, its presupposition in the idea of effect, is an immediate one, and perfectly self-evident to every clear thinker. It is, therefore, perfectly legitimate for Dr. Hazard to presuppose it. But it is

to be expected that those persons who have persuaded themselves that effects can be produced without the operation of self-active causes will refuse to admit such a thing as free will-power.

It will be seen by the dates of the works referred to that Dr. Hazard has been before the public as an author for many years. His work on the "Freedom of Mind in Willing," published in 1864, is, if we mistake not, used as a reference book in many of the universities of Europe, as the work of a specialist and an authority on his theme. Few who read the clear and vigorous paragraphs of the most recent work would credit what is the fact: that they were written by a business man in his eighty-second year, and at intervals snatched from an active management of very important and complex affairs.

"Of the earliest of his published writings, the 'Essay on Language,' Channing thus speaks in his lecture on Self-Culture: 'I have known a man of vigorous intellect, who had enjoyed few advantages of early education, and whose mind was almost engrossed by the details of an extensive business, who composed a book, of much original thought, in steam-boats and on horseback, while visiting distant customers.' His later writings, on topics of finance and philosophy, have elicited strong expressions of appreciation and respect from one of the most distinguished of living authors in the same departments of inquiry—John Stuart Mill."¹

The relation of our author to the celebrated Dr. Channing is told in a recent work:²

"His knowledge of Rowland G. Hazard dated from the anonymous publication of 'Language, by a Rhetorician,' which I read to him when it first appeared. He immediately recognized a rare metaphysical genius in its author, and said: 'I must find out this young man. He is evidently young and unpracticed in the literary art, but he thinks originally and profoundly; and I believe that he is the one to answer Edwards "On the Will," which has never been answered yet on its own logical ground.' The next summer he wrote me from Newport that he had found 'Rhetorician in a manufacturing firm in Rhode Island; quite occupied with practical business at present, but to be, as I think, a star in the intellectual firmament by and by.'"

¹ Quoted from a review of Dr. Hazard's writings in the "North American Review" for 1874, by G. P. Fisher, D. D., who speaks of Dr. Hazard as "an American author who, without the advantage of a college training, and engaged from early life in an extensive manufacturing and mercantile business, which has allowed but limited opportunities for reading, has nevertheless written with extraordinary ability upon the grave and often perplexing problems of economical and metaphysical science."

² "Reminiscences of William Ellery Channing," by Elizabeth P. Peabody, p. 351.

In a letter from Dr. Hazard in the appendix to Miss Peabody's "Reminiscences of Channing," the story of the origin of the "Freedom of Mind in Willing" is told :

"Once, and I believe only once during that visit, the subject usually spoken of as 'the freedom of the will' came up. Dr. Channing stated his own position in regard to it to be that, while upon the testimony of his own consciousness he fully believed in freedom—that is, in his own free agency—still, all the argument seemed to him to be in favor of necessity; and he went on to state what he regarded as the strongest argument of the advocates for necessity; namely, that, if the same circumstances should occur a thousand times over, and the conditions of the mind at each recurrence of them should be the same, then the action would be the same. And this, he said, seemed to him to argue necessity. I replied, at the moment, that this was a particular case of the general law that the same causes necessarily produce the same effects; and I doubted the applicability of this law to the mind, which was itself a cause. Here, so far as I recollect, the discussion of that subject then ended.

"I met him again, not very long after, at his summer residence near Newport, when he recurred to this conversation and the remark I had then made touching the like cases; and I then said to him : 'Admit, for the purpose of the argument, that the same causes do of necessity produce the same effects, and that this law does apply to mind. Now suppose the one thousand cases with all the circumstances the same, and the conditions of the mind at each recurrence of them also the same, and that one of those conditions is that of necessity; then, the same causes of necessity producing the same effects, the same action follows. Again, suppose another one thousand cases all alike, but that one of these conditions, instead of that of necessity, is now that of freedom; then, the same causes of necessity producing the same effects, the same action follows. Now, as we can change the element of necessity to that of freedom without changing the result, the result is no indication of which is in and which is out.'

"Dr. Channing, after a short pause, said : 'It looks as if you had thrown that argument entirely out of the question; but I would not like to decide it upon so short consideration.'

"In one of my discussions with John Stuart Mill I narrated what I have just written; and when I had stated Dr. Channing's view as to the strongest argument of the necessarians, Mill interrupted me to say : 'That is precisely what I rely upon.' When I repeated what I had said upon it, I thought he looked perplexed; and, thinking I had not expressed myself clearly, I began to explain, but he held up his finger and said : 'I see

the point; I see it. But I will wait till I read that in your book.' I was struck with the similarity of the effect upon these two distinguished thinkers.

"I cannot now fix the date, but at one time, when I was about to leave for the winter, Dr. Channing wrote to me that he wished to see me before I left, but was not well enough to leave home. I, of course, went to see him, when he said to me in substance that he had recently re-read 'Language,' with a higher appreciation of it than before; that he very much desired that the argument of Edwards should be logically refuted, and that freedom should be logically established, and he wished I would undertake it. I was quite surprised, and expressed the doubt I felt as to my ability, and also mentioned the slight knowledge I had of the subject—not having even read the argument of Edwards, or given special thought to the question generally. But he replied that he thought I had advanced farther in it than any other one he knew. Thus encouraged, and at the same time very loath to refuse the request of one I so much revered, I consented to look farther into the subject and see what I could do.

"My progress in it was slow; perhaps the slower, because I soon concluded that all the advocates of freedom had virtually given up the philosophical argument and fallen back either on revelation or their own consciousness—which weighed nothing with those who questioned the supreme authority of the Bible, or asserted their consciousness was not that they acted freely, but the reverse. Hence I resolved not to read, lest I should get into these ruts of thought, which evidently did not lead to the point I wished to reach, but would first try to work out the problem in my own way. From Edwards I learned what the questions were, and began to think about them in my usual desultory way as I was travelling about, or in such leisure moments as I could spare from my regular business, and became more and more interested in the pursuit."

We conclude this notice by quoting what Dr. Fisher says of the second of the treatises named above, and by two extracts from the book addressed to John Stuart Mill:

"'Our Resources' is a collection of articles published by Mr. Hazard during our late war. Early in the struggle there was great apprehension that, with the destruction of our foreign credit, our resources would prove inadequate to the emergency. These essays were designed to establish the faith of the public, here and abroad, in the sufficiency of our means. They originally appeared in the newspapers, but were collected into a pamphlet, which passed through repeated editions in this country and England. Abbreviated translations of them were also circulated on the

Continent. They showed that the *spare* income of the nation prior to the war was \$1,000,000,000 (gold value), and that from the stimulus imparted to labor by the war itself, and from the improvement in agricultural machinery, there was no reason to fear a diminution of this surplus; further, that from the standard of living prevalent among all classes in this country \$500,000,000 might be saved without stretching economy to a point involving any real hardship. They showed also that, while the great expenditures in the war, the prostration of the credit of individuals and of banks, and the withdrawing of coin, required a considerable emission of paper currency, yet any expansion beyond the limit of this requirement would increase the cost of the war, and enhance the debt to be subsequently paid in gold, with no counterbalancing advantages, since the increase in the volume of paper money would add nothing to its aggregate value or purchasing-power. The warning which was given in these able papers it would have been well to heed. One of the essays, entitled 'Compensation to Slaveholders,' undertakes to demonstrate that the value of land alone in a free State is equal to the combined value of land and of the slaves required to cultivate it in a slave State. This argument yields a picture full of encouragement to the South, since facts already indicate that it will be verified by the practical test.

"The last article of this series appeared at a very critical epoch in the financial affairs of the country. The treasury was depleted; gold was at 280; money was scarce, and the bonds of the Government unsalable. The incoming Secretary of the Treasury was advised in advance by bankers and financiers that his only resource was to issue more currency, that there might be a plentiful supply of money wherewith to buy the bonds. Mr. Hazard in this paper asserted—what in the light of subsequent experience is now obvious—that the course recommended to the Secretary would lead directly and speedily to national bankruptcy, and that it would, if adopted, produce a depreciation of the currency which it would be impossible to arrest, and that our financial fate would be the same as that which befell the Southern Confederacy. This article of Mr. Hazard was entitled 'Expansion and Contraction.' It explained how the effect of expansion must be to make money scarce and prevent the sale of the bonds; while the policy of contraction, if avowed, and adhered to, would restore confidence, and release money from the uses of trade and the appliances of speculation, to be invested in Government securities, and at the same time increase its purchasing power. The proposition was generally regarded as preposterous, but the arguments by which it was supported were found, on examination, convincing, and the doctrines of this brief essay are now among the recognized truths of political economy

The Secretary of the Treasury was fortunately convinced that these positions were well taken ; and, if the policy of contraction, which the author advised, was not pursued, no further expansion was attempted. The public are not generally aware how near we were, at that time, to measures which would have inevitably brought upon us financial ruin."

THE DEFINITION OF CAUSE.¹

If the whole aggregate antecedents are the Cause of any effect, then, as at each instant, the whole antecedents are the same at every point of space, the effects should be everywhere the same. To this it may be plausibly replied that, the conditions acted upon being different at different places, different results may follow from the action of the same cause.

In the first place, however, it must be borne in mind that, as these various conditions must exist before they can be acted upon, they must themselves, in the view we are now considering, be a part of the antecedents which make up the Cause. You explicitly assert that all the conditions are included in the Cause. The whole past being thus combined in one Cause, acting upon a perfectly blank and void and therefore homogeneous future, the effect would be the same throughout the whole length and breadth of its action. Again, admitting that the same causes, acting upon different conditions, may produce different effects, it can hardly be asserted by the advocates of the rule that the same causes necessarily produce the same effects, that the action of the same cause can itself be different ; for, then, this different action upon the same conditions would produce different effects, thus disproving the rule. Now, the whole past, being embodied in one Cause, must have one certain specific action, and that action either (being sufficient) produces an effect, or (being insufficient) produces no effect. If it produces an effect, then this effect is added to the aggregate events of the past, so far changing the aggregate Cause ; and a past Cause, which has once acted, never can again act as the same Cause, for this additional effect or event must ever remain a part of the whole past ; and hence there can be no practical application of the rule that the same causes of necessity produce the same effect ; and, on the other hand, if the action of this one aggregate Cause (being insufficient) produces no effect, then, as there can be no change in the Cause (and none in the conditions upon which it acted), the Cause would, of course, remain the same Cause, and, its action being the same and upon the same conditions, the result must be the same—that is,

¹ From Dr. Rowland G. Hazard's "Two Letters to Mill on Causation," p. 56. The criticism on the idea of a totality of antecedents shows clearly that efficient cause must be an intelligent will.

no effect, and there would be an end of all change, and everything would remain quiescent in the state in which this insufficiency of Cause found it.

If it now be said that the failure of this cause to produce any effect by its action is such a new event or condition that it can, as a consequence of it, act in some other manner, then, there being no change external to it, and nothing to change itself except the negative fact of non-effect, which can have no influence upon anything not cognizant of it, it follows that the Cause must be intelligent, and, as such, capable of devising or selecting some new mode of action which will avoid the deficiency of that before tried, and found to be ineffective. The Cause already embracing the whole past, nothing could be added to it from what already existed: being ineffective, no new existence has been added to it; and if, under these conditions, it changes its action, it must be self-directing, accommodating its action to circumstances which must be known to itself as a prerequisite to such accommodation. It must be intelligent Cause.

The whole of the prior state never can occur again, for the present is already added to it; and if, like a circulating series of decimals, the consequent of this whole past should be to reproduce and continually repeat the same series, and even though the observation of this uniformity, in the successive order of events, should enable us to predict the whole future, still it would not prove that the producing power was in the past circumstances. It would only prove the uniformity upon which the prediction was founded, and not the cause of that uniformity which still might be the uniform action of some intelligent active agent, who, perceiving some reason for adhering to this order, and having the present power, continually repeated it. Much less could it prove that power not free. The mere observed order of succession, uniform or otherwise, would not include a knowledge of the power that produced this uniformity, nor the manner of its doing it. To find this we should need to compare the effects with those of some known power in action, as those of intelligent effort or of matter in motion. Nor would this supposed dependence of the present on the past be a case of the same causes producing the same effects; for at each repetition of the effect the whole prior state, which is assumed to be the Cause, is different, the effect of each "prior state" acting as Cause being continually added; and, if there comes a time when there is no effect, then there can be no difference in this "prior state" or Cause, and, of course, no variation in the consequent—no effect.

And if, as you say, "in the general uniformity . . . this collective order is made up of particular sequences obtaining invariably among the separate parts," then the foregoing positions apply to each of these separate parts or longitudinal sections of the whole.

ON OUR NOTION OF INFINITE SPACE.¹

Mr. Herbert Spencer, in the article referred to in the preceding paper ("Mill *vs.* Hamilton: the Test of Truth"), says: "Here, then, is the flaw in Sir William Hamilton's proposition: that space must be infinite or finite are alternatives of which we are not obliged to regard one as necessary, seeing that we have no state of consciousness answering to either of these words, as applied to the totality of space, and therefore no exclusion of two antagonistic states of consciousness by one another." But the obvious truth of the general proposition, that everything "must be infinite or finite," does not depend upon our having a state of consciousness answering to the particular thing to which it is applied.

We assert that all the angles of every plane triangle are equal to two right angles; but we have no state of consciousness corresponding to triangles in general, or to every plane triangle, and hence, if such consciousness of the thing to which the general proposition is applied is necessary, we could only assert this of the particular triangle in the mind's view at the time. But, in demonstrating this geometrical theorem, we perceive that we use no elements which do not pertain to every plane triangle, whatever its form or size, and hence assert its truth of every plane triangle. The only condition essential to the demonstration is, that the figure shall be bounded by three right lines. So, too, when we assert that a thing is infinite or finite—is or is not bounded—we perceive that the truth of this proposition does not depend upon any peculiar property whatever of the thing to which it is applied, but is as true of a thing with one property, or one combination of properties, as of a thing with other property, or other combination of properties; and hence, whether we do or do not know or conceive of the properties of the particular thing to which we apply the proposition, is not material to our faith in its universal application to all things whatever. The only ground upon which space could be excluded from its application would be to assert that space, in itself, is no thing—that it is but our conception of nothingness; but it has the property of, or is in itself, extension—the very property or conception to which the idea of being bounded or not bounded most palpably applies.

If I see only a portion of anything, I know that it either is or is not bounded. A telegraph wire, of which I cannot see any end, I know either has or has not an end in each direction. It may be infinite, and every portion of it present the same appearance as that which I now see

¹ From the "Two Letters on Causation," etc., p. 274.

It may make an entire circle, and thus, though finite, in a common sense of the word, hav no end. Even in this sense, to deny one of the positions asserts the other, both in terms and in thought.

In regard to space, it is asserted that, in its entirety, we can neither comprehend or conceive it as bounded, nor yet as not bounded. The first seems to me certain, but I am by no means sure that we cannot and do not conceive of space as boundless. That we know it must be either bounded or not bounded, taken in connection with our inability to conceive of it as bounded, seems to indicate that we do; in thought, regard and conceive it as boundless.

The mental process by which we attempt to grasp the idea of infinite space is peculiar. We begin with the admitted fact that it can have no bound or limit, and yet the next thing we attempt is to find its bound or limit, and then, because we cannot find in it that which we know does not belong to it, and cannot possibly pertain to it, we conclude that we do not comprehend it. This is as if one who had never before seen any shot, except those made of lead, should, on looking at some made of silver, say these are pure silver shot ; I cannot find any lead in them ; therefore I do not comprehend them. That our conception of anything does not embrace in it a property or quality which does not, or cannot, pertain to it, is so far proof that our conception of it is not incorrect. As the fact that one does not and cannot find any lead in pure silver shot, is so far evidence that he has a correct conception of silver shot ; so, too, that we do not and cannot find any limit or bound to infinite space, so far indicates that in this respect we properly conceive it.

The knowledge or conception of a thing in itself is impossible to us. We can only know it by its properties of producing change in ourselves, and, if an outward object, the only way in which this can be done is through our sensations. The same object may have the property of effecting a variety of sensations, and we have not a full conception of it till we know all these properties, or, rather, all the effects attributed to them, for the properties, as distinct from the effects, like the things in themselves, are unknowable, and are recognized only by their effects upon us. When we name these properties, we only name a cause, the existence of which is inferred from the effect. This object may also have the property of changing itself, or of changing other objects, and, maybe, of being changed by them. The knowledge of all these elements is necessary to that full comprehension which *is* possible.

We comprehend a thing in itself when we know all its component parts and properties, and all the relations of these parts and properties to each other. As an entirety, we comprehend a circle whose radius reaches to

the remotest star. We know that all its properties are the same as those of any other circle. We cannot readily divide it into, and particularly notice, each of such magnitudes as we have been accustomed to move over, or even to clearly apprehend by the eye, for to fix the attention on each of such portions would require centuries. These cannot all be the objects of real or imaginary sensations. We cannot thus make it up or construct a conception of it by the addition of the minor perceptions which our senses have supplied. But this does not imply that mentally we do not comprehend this vast circle, with all its intrinsic properties and conditions. One must at least have a clear conception of those parts, properties, and relations, which he can fully and accurately present, on a smaller scale, to the senses. Now, the idea or conception of infinite space, in itself, is the simplest which is possible. Its only property by which it is related to or distinguished from anything else is its capacity to contain extension or admit other existences into itself; and for these it is equally essential, whether we regard it, with these other existences, as distinct, self-subsisting entities, or as mere ideal creations, or imagery of the mind. Strictly speaking, perhaps, this capacity of space, to be a receptacle for things or for certain mental imagery, is rather a use than a property. Its component parts are perfectly homogeneous—nothing but space—and the relations of each portion to all the rest are the same, and there is nothing external to it to which different portions of it might have different relations.

The idea of a periphery of a circle, considered merely as an isolated line, has this same homogeneity: every portion of it is precisely like every other equal portion, and has the same geometrical relation to every other portion. So, too, of the surface of a sphere; every portion is like every other portion of like dimensions, and each of such portions has the same relation to all the rest of the surface. But, in the cases of the circle's periphery and the sphere's surface, we always have a difference in the relations of the different parts to what is extrinsic to them, as that one part is farther from the earth than another, or one part is farther to our right than another, which cannot occur in regard to infinite space, to which there is nothing without to compare.

Intelligent being, intrinsic to space, may regard one portion of it as to his right, and another as to his left; but change in his position does not change his relation to all the rest of space in this respect.

If, instead of periphery and surface, we consider the enclosed area of the circle, and the enclosed quantity or space in the sphere, then the portions in each vary in their intrinsic relations to each other; some are nearer the periphery or the surface than others, or some are nearer to the

centre than others; but make this sphere infinite, and this variety in the intrinsic relations of its parts disappears, for there is then no circumference, consequently no centre, but every point in it is as much a centre and as much on or near the circumference as any other point.

The homogeneity of the isolated periphery of the circle or of the surface of the sphere is again attained, and the conception is not embarrassed or complicated by any difference in the relations of its component parts, and has the additional exemption from such embarrassment and complication that there is nothing without it with which it can have any relations whatever.

The idea of infinite space is thus simpler than that of a finite homogeneous sphere in which the different parts stand in different relations to each other, and also to surrounding objects. No conception of anything can be simpler than of that which is perfectly homogeneous in all its parts, and in which every part has the same relation to every other part, and nothing outside with which to have varying relations, and in which, having only one property, this can, of course, have no relations whatever, and, therefore, no diversity of relation to any other of its properties.

In regard to the surface of the finite sphere, we cannot, in our conception of it, take in separately each point and observe its relations to every other point, for the number of these points is infinite; but, knowing that each of these points has the same relation to every other point, we are justified, after ascertaining this fact, and having observed the relation of one point to the rest of the surface, which includes all other points, in saying that we comprehend this relation of every point to the whole surface.

So, too, in the case of infinite space, though we cannot consider each of the infinity of like finite spaces, of which it is composed, yet, knowing that the relation of each one to the whole is the same as that of every other, we may in like manner assert that we conceive and know that every point or portion has the same relation to the whole which every other point or like portion has. It seems, then, that our conception of infinite space—which properly extrudes the element of limit or bound, which does not belong to it, and which embraces a knowledge of all its component parts, and of all the relations of those parts to each other, and of all its properties and their relations to each other, and of all its uses—is as full and perfect a conception as we have of anything whatever.

The idea of what is thus homogeneous in all its parts, and in their relations to each other, which has but one property or use, and nothing without it to which it can have varying relations, is the simplest possible conception of existence, having indeed so few elements of thought in it as,

in the last analysis, to raise a doubt as to whether the conception is that of existence or of its absence.

Perhaps the principal difficulty in the case is that of believing that an idea, so simple and so limited in its conditions, really fits an object which, in its vastness, is illimitable. Hence we seek to add to our conception of it, and find that in so doing we immediately come in contact with ideas that do not belong to it, showing that on all sides we have reached the limit of the conception we are exploring, and have already embraced in our survey all that pertains to it. If extension is regarded as its property, this does not generically distinguish it from other things; for all have this property, and the consideration that this is the only real property of space, and that space is necessary to all material existences, strengthens my previous suggestion that extension is the nearest approach to our notion of a substratum. Mere extension is unoccupied space, and is that which always remains when all the other properties of that which occupied it are abstracted; but the extension, in itself, is then reduced to a vacuum or nonentity.

The reduction of our notion of tangible space to an idea of the simplest character, and eventually to a mere extended vacuum, is not wholly an isolated fact, without parallel in other objects of thought. As the tangible quantities of an algebraic formula may sometimes be reduced in the aggregate to zero, and more especially as the combination of such formulas in an equation, sometimes, when reduced to their lowest terms, results only in $0=0$, so, too, in subjecting some of our abstract ideas to that last analysis, in which they elude further reduction, analysis, or comparison, we get glimpses of relations by which they seem to be neutralizing each other, and, in the aggregate, resolving into nothingness, suggesting as a corollary the converse possibility that from nothingness they may have been evolved, and brought into existence by the creative plastic power of an Intelligence of a higher order than that which thus by its action resolves them again into their original nonentity.

If, by a fuller knowledge—a clearer perception—of this resolving process, or otherwise, we shall ever come to be able to reverse it, then, in connection with the ideal philosophy, the creative power of the finite, as of the Infinite Intelligence, will no longer be veiled in a mystery which has thus far been impenetrable to mortal vision, and the origin of all existence, except that which creates, would be revealed to us.

We may, perhaps, even now anticipate, or venture the prediction, that the creative power of mind will be found to reside mainly in its poetic modes of thought, and its annihilative, mainly in its logical prosaic modes.

This would be in harmony with the suggestions I have heretofore made : that the representation of the thought and imagery of the mind of God in the creations of the material universe is the purest type we know of poetry ; that the province of the poet is to create, and to make his creations palpable and tangible to others, and that the appliance of the logical modes to his productions immediately reduces his creations to mere abstractions, with a cessation or revulsion of all the poetic vision and emotion which they were fitted to produce. We may thus, by a resort to the logical modes, annihilate the creations of the most gifted in our own sphere of intelligence, or, at least, reduce them to intangible abstractions. We may further note in this connection that mathematics, the purest type of the logical processes which thus dissolve or reduce the creations of the poet, is only the science of quantity, of simple extension, or mere space ; our idea of which, involving the fewest properties and relations, is the nearest approach to nothingness of which we have any conception.

But this power of annihilating is by no means the only characteristic of the logical faculty. It is not creative, but it discovers and analyzes what already exists, and, in its ability to reduce, to disintegrate, and to abstract, it is an important agent in the advancement of our knowledge of what already is, often harmoniously co-operating with the poetic modes to this end.

A STUDY OF THE ILIAD.*

BY D. J. SNIDER.

III.

Book Second stands out among the books of the "Iliad" in possessing certain qualities of its own. It has, on the whole, the subtlest procedure, the most elusive links of conjunction that can be found in the whole poem. The motives are so hard to catch, so fleet and riant in their evasiveness, that the drift of opinion has usually been to regard the book as patchwork or a caprice, with little outer or inner connection. But it has a plan, a profound plan, and it fits organically into what goes before and what comes after. It has, however, a spirit of sportfulness, of playful concealment, which must first be reached and sympathized with before its true harmony can be felt.

Regarding it apart from the Catalogue of Ships, we see that

* Articles I. and II. of this series appeared respectively in the April and the July numbers of this Journal for 1883.—EDITOR.